OBSERVATIONS ON THE MATING HABITS OF HALICTID BEES

(Hymenoptera: Apoidea)

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In October, 1946, on the experimental farm of the University of California, at Davis, rather large numbers of the following species of halictid bees were observed on the fermenting juice of broken watermelons: *Apis mellifera* L., *Agapostemon cockerelli* Crawford, *Halictus ligatus* Say, *H. farinosus* Smith, *H. rubicundus* Christ, and *Lasioglossum sp.* Except for the first, all belong to the family Halictidae. Since the mating of most genera of bees is not readily observed, the following notes are recorded.

Agapostemon cockerelli and *Halictus ligatus*, males and females, were the most abundant, and the males of both species spent most of their time trying to copulate with females. In these attempts the males flew in circles about 4 inches above the watermelons and dropped precipitously upon the feeding females after approaching them from behind. In most cases the females dislodged the males by simply taking flight or by first rolling onto their backs.

In approximately 5 percent of the encounters observed, mating was apparently successful. In such cases the male was seen to straddle the female with his head above her neck. The tip of his abdomen appeared to curl under and slightly to one side of the tip of hers, but this was not clearly observed. When full contact was made, the female crawled across the watermelon and in a few cases took flight for an inch or more. During this activity the male would usually lose hold with his fore- and mid-legs and assume an almost perpendicular position, still clinging to the female with his hind legs. The average time of contact was about 10 seconds. Mating was apparently terminated by the female, who dislodged the male by twisting, rolling over, thrusting with her legs, and then taking flight. The female, when free, immediately resumed feeding, and the male in most cases started searching for another female.

Little discrimination was shown by the males in selecting females for attempted matings. Females observed to be already mated were pounced upon as readily as the others, and females of all the halictid species, with the exception of the *Lasioglossum* which were very small, were subject to encounters by males of at least the three commonest species. In no case, however, was a male seen to make prolonged contact with a female known to be mated or with a female of a different species. Table 1 shows the results of a series of attempted matings observed in about half an hour on one watermelon.

Table 1.—Results of attempted mating by males of two species of Halictidae.[1].

	Agapostemon cockerelli	*Halictus ligatus*
Agapostemon cockerelli	32 A,[2] 3S	14 A
Halictus ligatus	6 A	36 A, 4S
Halictus farinosus	4 A	8 A
Halictus rubicundus	2 A	4 A
Lasioglossum sp.	—	1 A

[1]Observations were made by watching the females rather than the males.

[2]A = Attempted mating; S = apparently successful.

IXth International Congress of Entomology

The IXth International Congress of Entomology will be held from August 17th-24th, 1951, in Amsterdam (Netherlands). Entomologists wishing to receive in due course programs and application forms are requested to communicate with the Secretariate, c/o Physiologisch Laboratorium, 136 Rapenburgerstraat, Amsterdam. Further communications will follow in 1950.

Another European Weevil Established in California

A specimen of *Baris* (*Cosmobaris*) *scolopacea* Germ. was collected at Antioch, Calif., on July 15, 1946, by D. Giuliani. Mr. Peter Ting informs me that he has also collected this weevil at Corral Hollow, near Tracy, on cattails, May 4, 1939, and near Sacramento, June 25, 1949, on rag weed. Rag weed is its normal food plant.—Edwin C. Van Dyke.